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Practical Plant Layouts for Handling Concrete Materials

Building

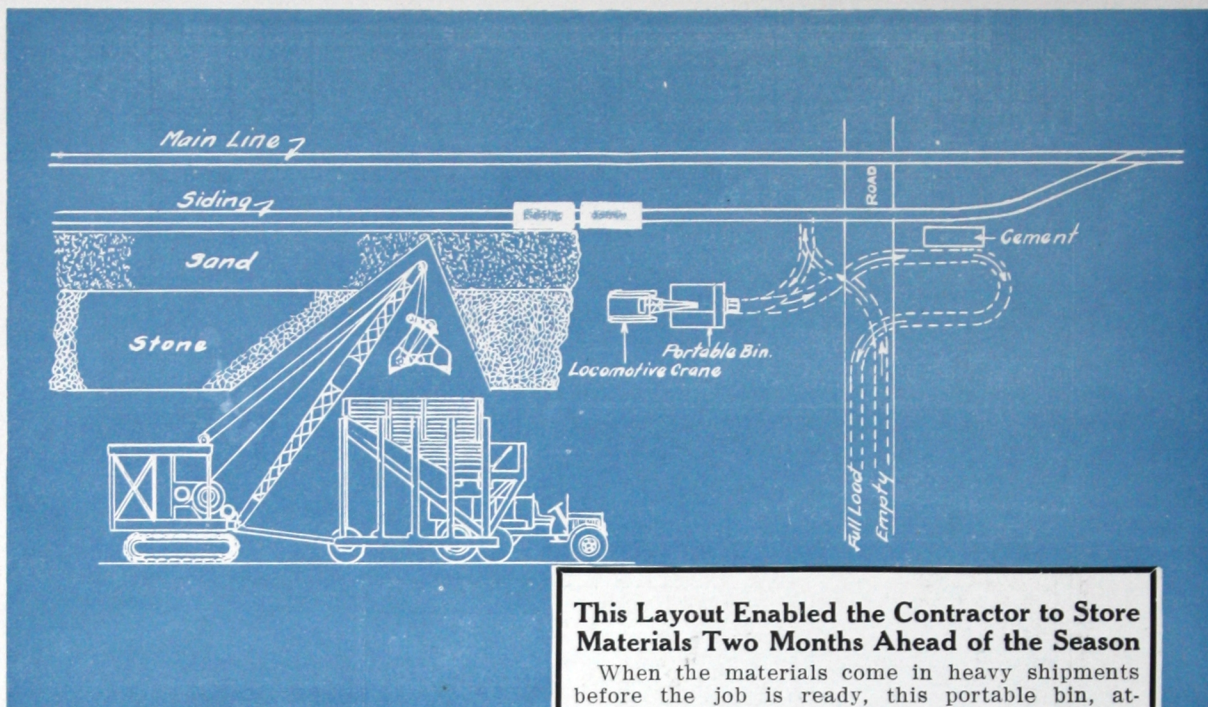


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All Parts Guaranteed Against Breakage



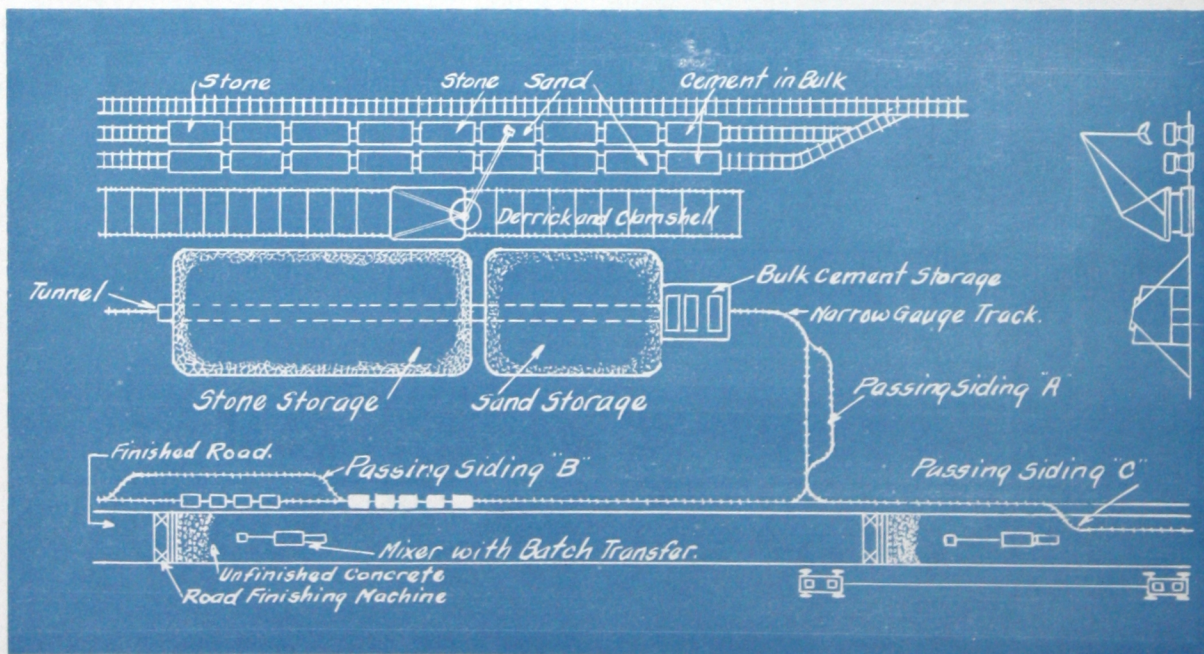


This Layout Enabled the Contractor to Store Materials Two Months Ahead of the Season

When the materials come in heavy shipments before the job is ready, this portable bin, attached to a locomotive crane, is a practicable means of re-handling to motor trucks.

On the job illustrated the contractor received 10 to 12 cars per day for two months before he was ready to start his mixer. Then the crane coupled onto its portable bin and loaded the motor trucks as fast as they came.

The portable bin, shown above, is approximately 14 ft. square and 18 ft. high, built of white oak. It is mounted on road wheels, 40 in. in diameter, and with a 12 ft. base. Attached by a rigid 10 ft. pole to the crane, it moves with the crane. The bin holds 40 yds. of aggregate, 15 of sand and 25 of stone.

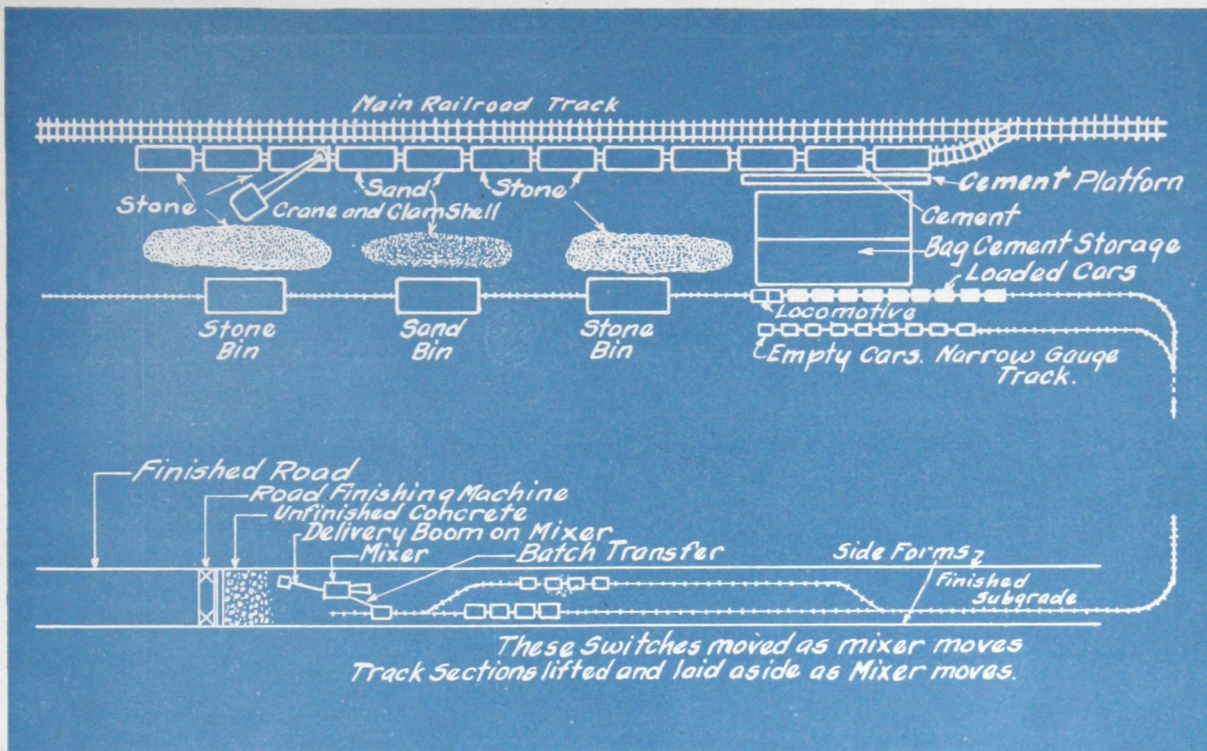


For the Large 2-Mixer Job, Where Tunnel Storage is Practicable

The fortunate contractor who can work his road job "both ways from the middle" is likely to save time and money. An industrial railway layout, serving two mixers, is shown

in the sketch. Material is unloaded, with derrick and clamshell, to storage piles with timber tunnel through center for loading the industrial cars.

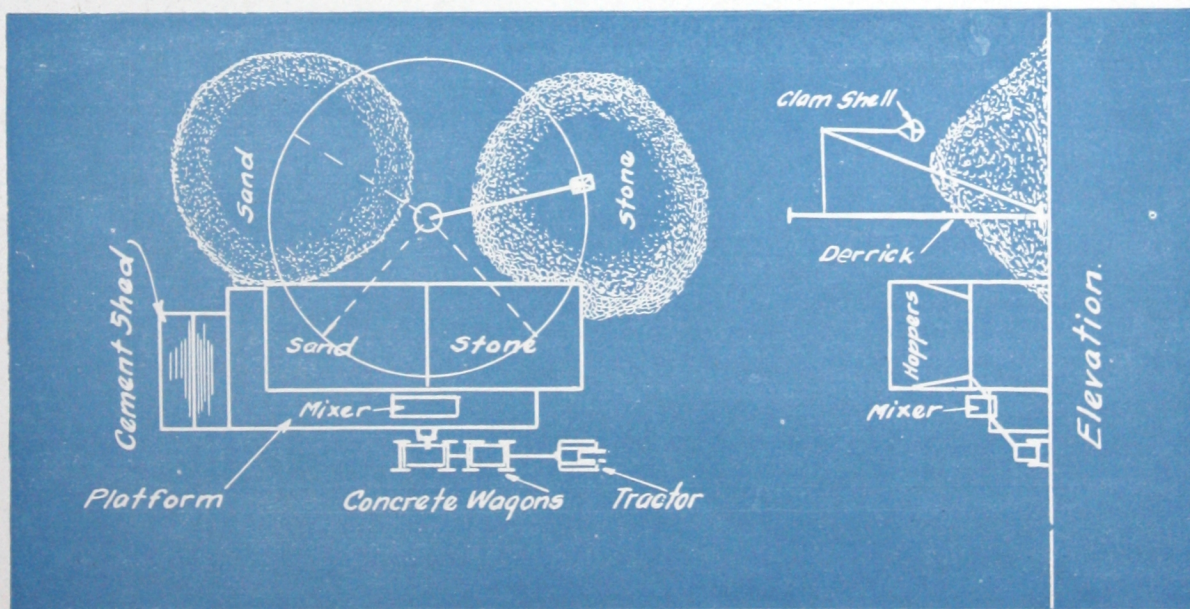
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A Typical Narrow Gauge Industrial Railway Layout

By means of crane and clamshell, sand and stone are unloaded from railroad cars to storage piles and hopper-bottom bins, serving industrial railway. Measured batches of sand, stone

and cement are hauled to the mixer in batch boxes, two batch boxes being mounted on each industrial car frame. Cement is carried in special cement compartments in each batch box.

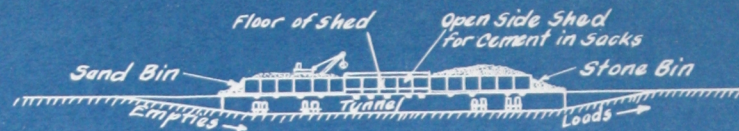


Concrete Wagons, Hauled by Tractor, Delivered the Mixed Concrete from this Central Mixing Plant

In this layout the sand and stone are handled by derrick and clamshell from storage piles to the elevated bins above the mixer platform. Mixed concrete is discharged into concrete

dump boxes mounted on wagon bodies, drawn by tractor. This layout was originally developed for a large housing project, but can be adapted to many other uses.

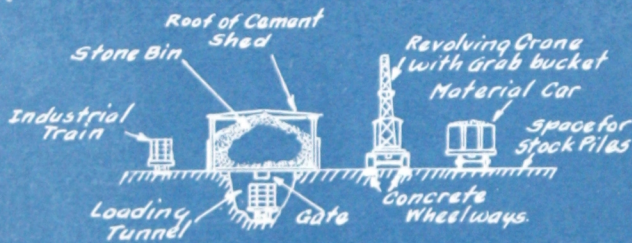
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Sectional Elevation.



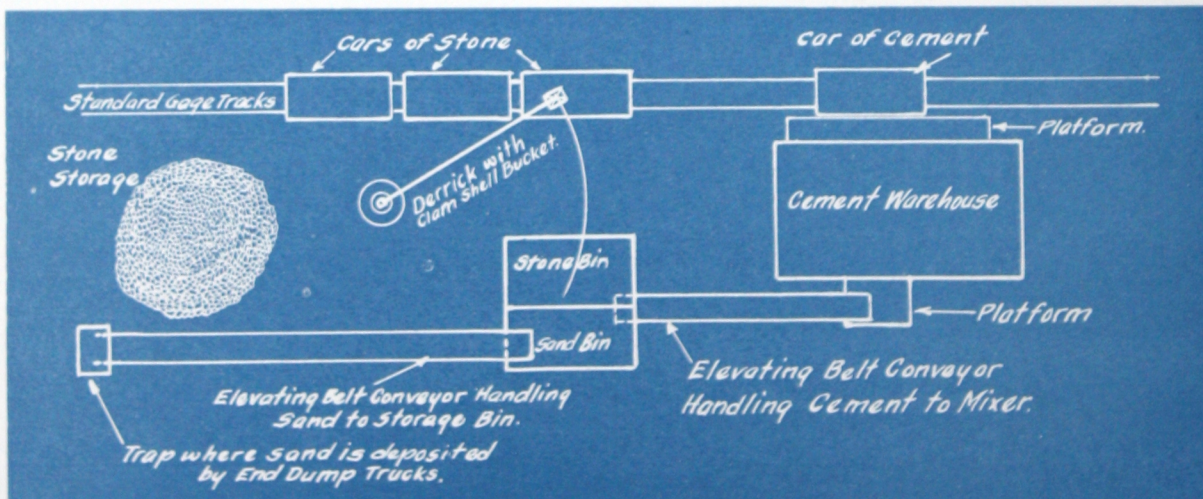
Plan



Enlarged Section at X-Y

Where Tunnel Loading Is Practicable, This Lay-out Works Well

Here an unusual feature was the fact that, instead of the storage pile being built over the narrow gage industrial track, the track was run in a tunnel or subway under the storage pile, the bins being built flat on the ground. Concrete runways were built for the traction wheels of the locomotive crane, to facilitate its movements when unloading cars to the material bins.

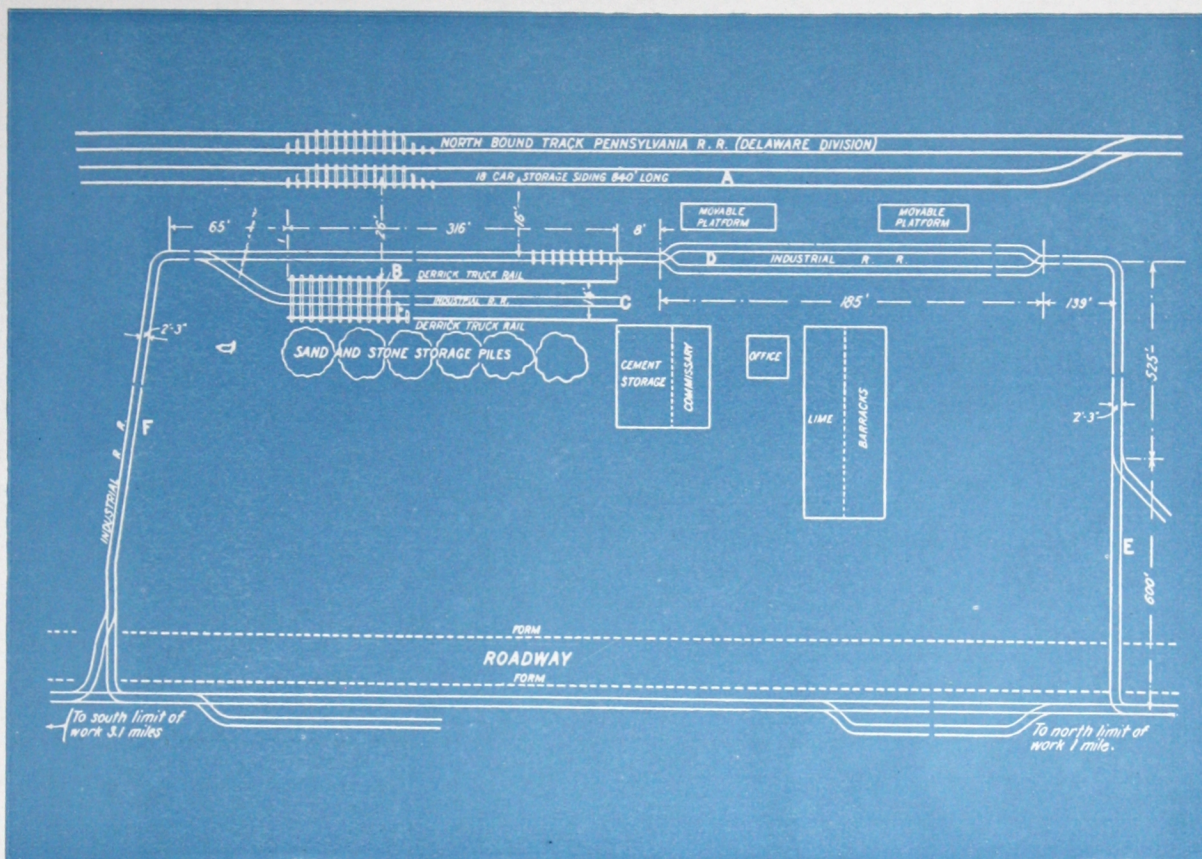


Located at the Middle of the Job, this Central Mixing Plant Layout Gave Good Results.

A 1 yd. clamshell on an 85 ft. boom derrick unloaded stone to stone hopper above mixer. Sand and cement were elevated to the mixer

by belt conveyors. There was a 3¼ mile haul to either end of the job, concrete being handled by motor trucks with end-dump bodies.

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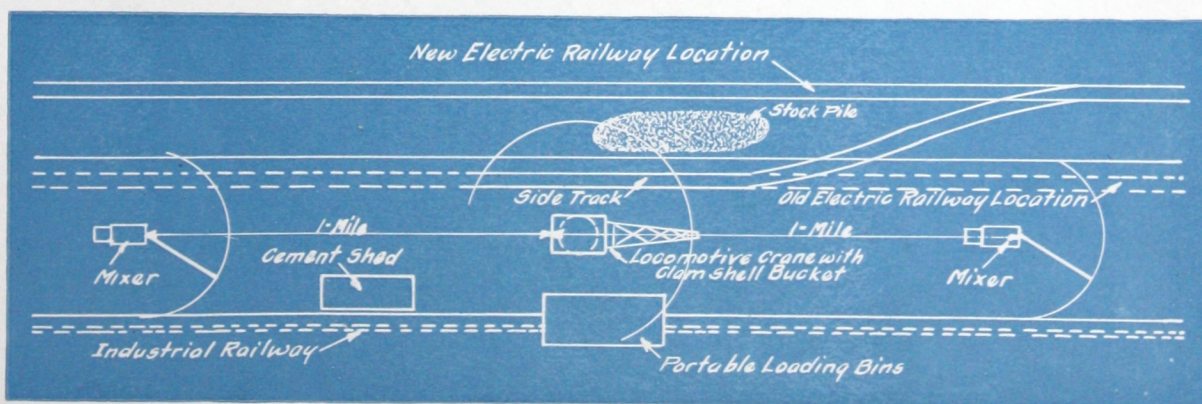


Direct Unloading of Cement from Cars to Batch Boxes by Means of Movable Platforms.

In this layout, the contractor, by means of two movable platforms, was able to unload cars of cement for immediate use directly into his batch boxes. Cement for future use was stored in the cement storehouse.

Derrick with clamshell operates on Track

"B," and unloads sand and stone into movable bins, or into storage piles. Trains of batch box cars, on track "C," pass under material bins, for loading with sand and stone. Cement and lime are received from track "D," cement being left in bags until mixer is reached.

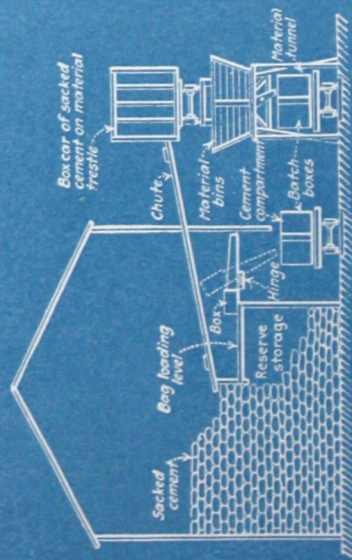
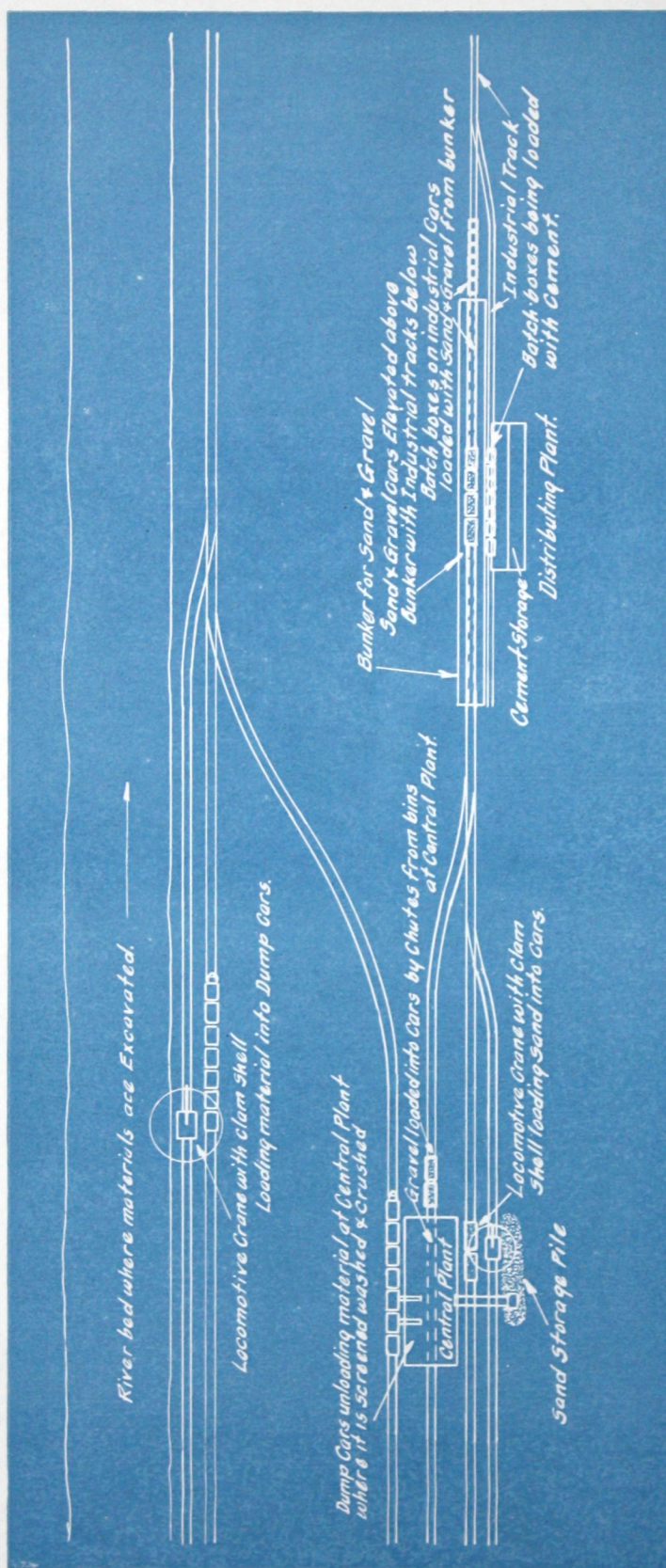


When Material Comes in Regularly, this Layout Keeps Portable Loading Plant Close to Mixers

Two mixers were worked on this contract. The unloading crane was kept within a mile of each mixer, by moving the portable bins as necessary. Batch boxes were used, two mounted on each industrial car frame.

Where a layout like this is employed, carloads of material must reach the job on careful schedule, to avoid large stock piles. It is not feasible where material comes in too fast, or where shipments are delayed at times.

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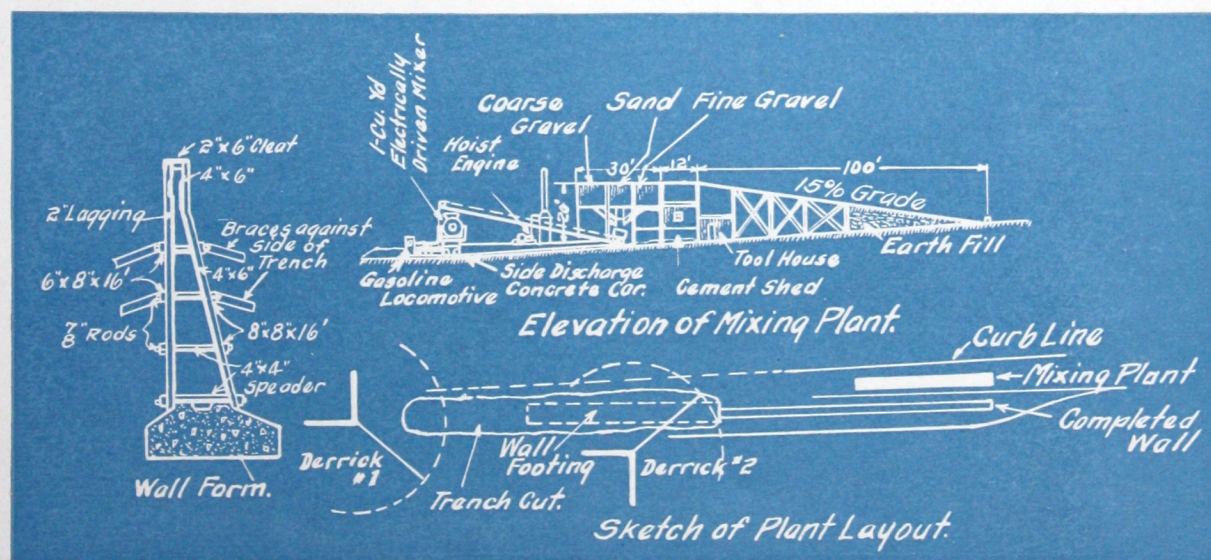
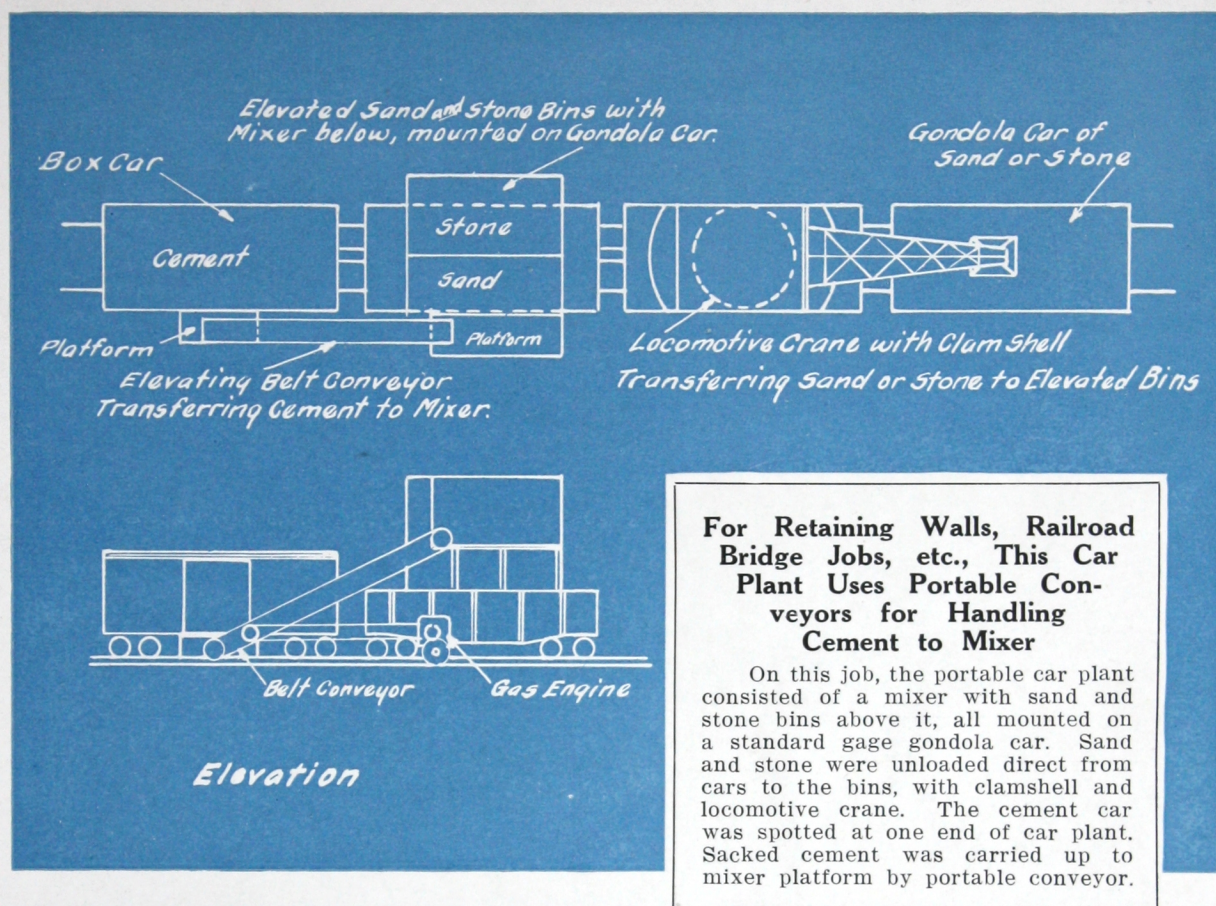


To the Contractor with a Big Road Job this Method of Handling Sacked Cement May Prove Interesting

A single job of concrete road 141 miles long, is worth watching for hints on plant layout. Here is shown a central washing and screening plant, delivering materials to district distributing plants, for hauling to the mixers.

At the left is shown the arrangement for handling sacked cement at the district distributing plant. This is a detail that can be applied to any good-sized road contract, where a central cement storage is possible and the contractor is using some form of batch boxes.

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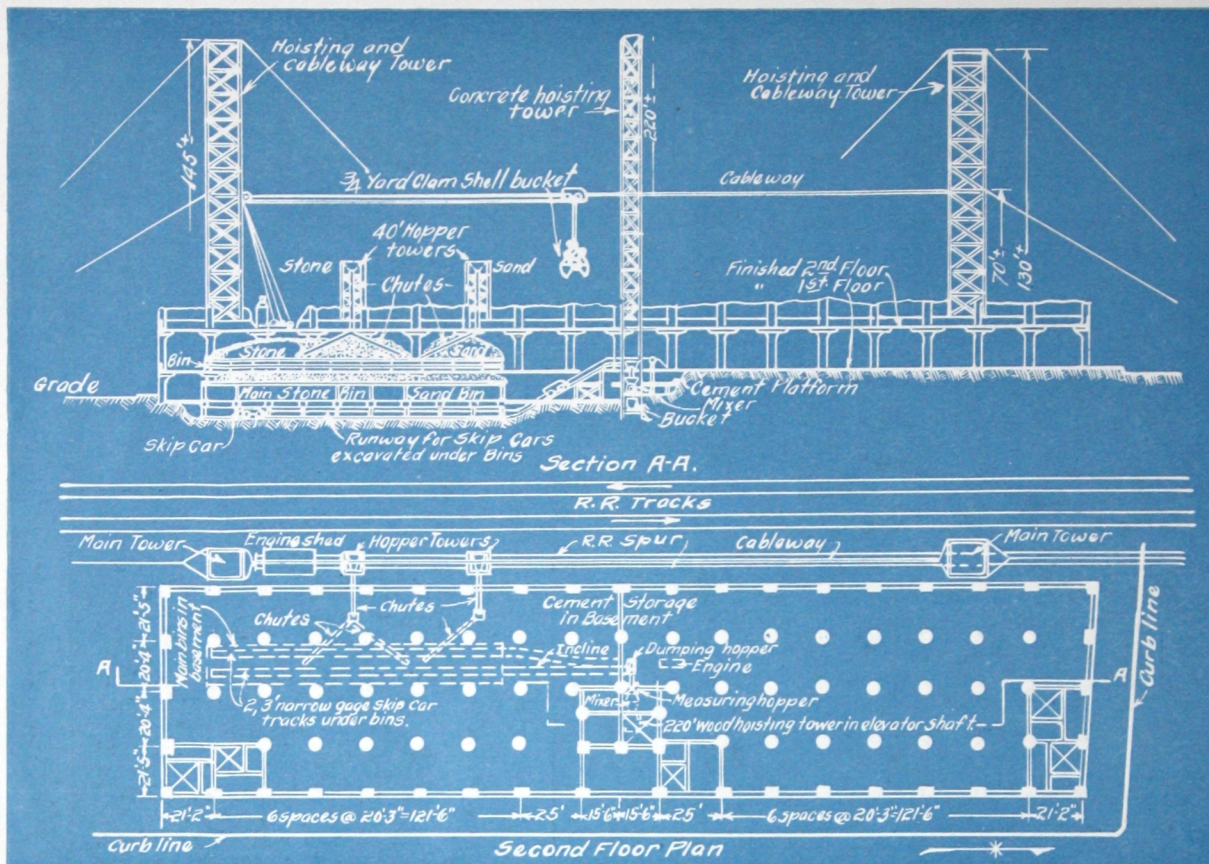


Here's a Plant Layout Well Adapted to a Long, Narrow Site.

Here a very narrow strip of ground was the only available location for the mixing plant. Motor trucks easily climb the 15% grade to top of material bins. From the bins materials fall into a bottom dump car, which hauls them up to the mixer platform. Measur-

ing boxes, mounted under the bins, proportion the batches. Mixed concrete is discharged into narrow gage cars, which carry it to the forms. This plant layout works well on retaining wall or sewer jobs, or on any work where only a narrow mixer site is available.

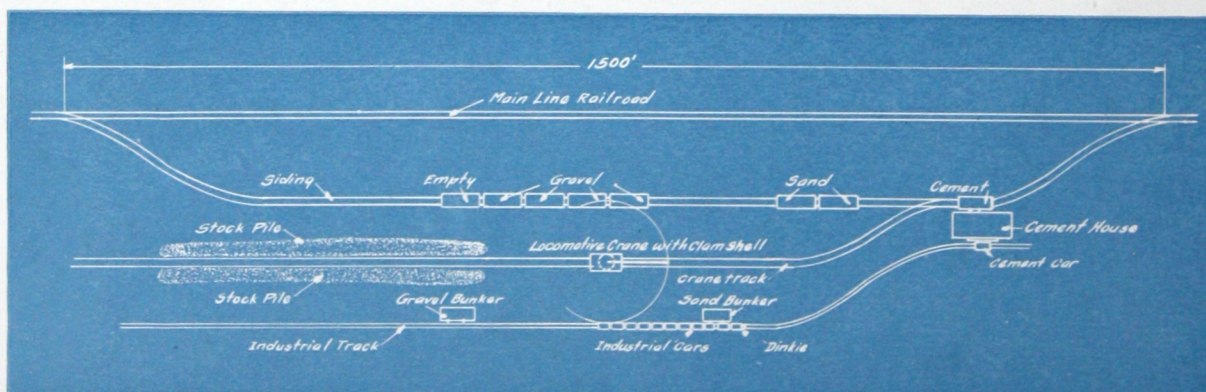
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For this Seven-story Building Job All Materials Were Unloaded in a 20-ft. Strip Occupied by a R. R. Spur.

Here a cableway outfit, with a $\frac{3}{4}$ yard clamshell, was used for unloading materials. One of the cableway supporting towers straddled the railroad spur, ample clearance being provided. Sand and stone were hoisted by the clamshell which moved along the cableway

and dumped into tower hoppers. From the tower hoppers material was chuted into storage bins in the basement. Skip cars, running on tracks under storage bins, hauled aggregate to the mixer. Cement, stored in the basement, was unloaded from cars by gravity conveyors.



This Layout Overcomes the Handicap of Limited Storage Space on a Road Job, When Materials Are Received Regularly

On this 11-mile road job, storage space was available for only enough material for $\frac{1}{4}$ mile of pavement. Clamshell and derrick unloaded sand and stone from cars to small portable bunkers, or to stock pile. Bunkers were mounted on skids, to be easily moved

around by derrick. They held only enough material for one loading of the narrow gauge trains. Cement house was so located that loading of cement did not interfere with handling of sand and stone. Loaded cement car was pushed ahead of dinky to mixer.

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For Speedy Handling of Road Materials— and for Light Excavating—an all-around bucket for general contracting work

The WILLIAMS "Favorite"—a clamshell built for fast unloading, with plenty of strength and power for light excavating. The ideal bucket for all-round general service for the contractor, because:

VERY SPEEDY. Its closing action is quick and powerful, because of the multiplied leverage of the WILLIAMS Closing Arm, with the sheaves in tandem—exclusive WILLIAMS design.

It opens instantly, every time, as soon as the closing line is slacked, because of its perfect balance.

STRONG CONSTRUCTION. For instance, on the WILLIAMS, the hinge bearing has only one

moving part, instead of the five found on most clamshells—simpler and stronger design.

The WILLIAMS triangular head construction makes possible a much shorter and stronger head bearing—saves "wobble" and wear at the head pin, and holds the scoops in line—permanently.

Both for speed and for strength the WILLIAMS is the clamshell for the contractor. You need a WILLIAMS for maximum profits from your handling equipment.

GET THE WILLIAMS CATALOG—a 60-page book of interesting photos of clamshell work, with blueprints and specifications of every bucket in the WILLIAMS line. Glad to send you a copy—no obligation.

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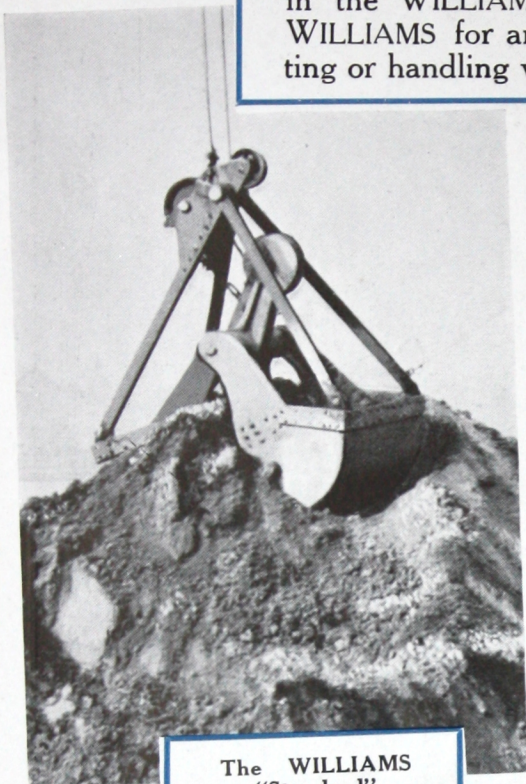
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For any kind of contracting work,

These are only a few of the buckets in the WILLIAMS line. There's a WILLIAMS for any kind of excavating or handling work.



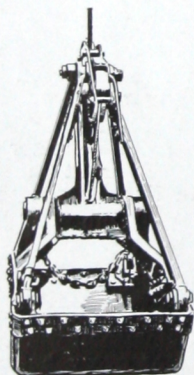
**The WILLIAMS
"Standard"**

A light quick-acting bucket, designed for handling sand, gravel, coal, and all bulk materials of like character.



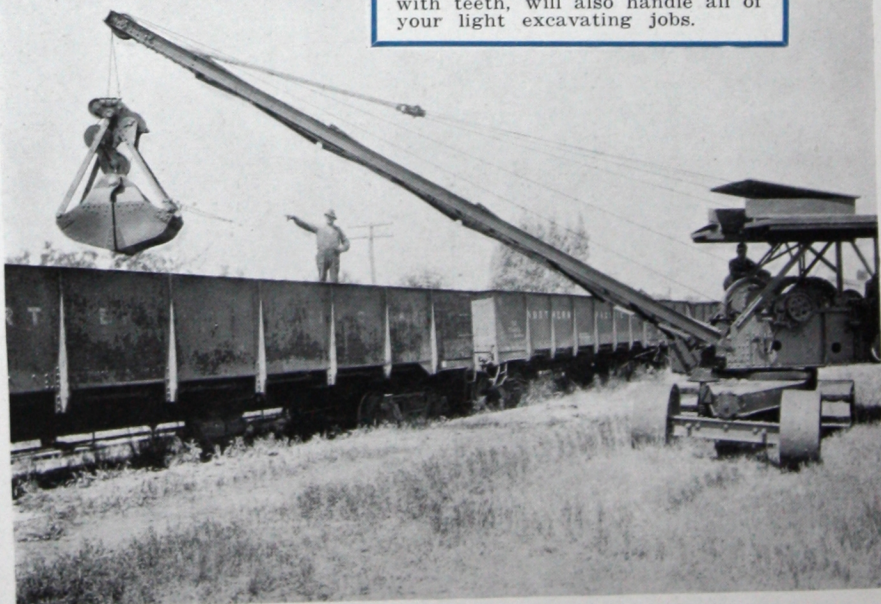
The WILLIAMS "Favorite"

The all-round bucket for the contractor. A very speedy bucket for handling sand, gravel, crushed stone, coal etc., and, when fitted with teeth, will also handle all of your light excavating jobs.



Triangular Construction

In every WILLIAMS Clamshell, the head bearing is held perfectly rigid by the corner bars meeting in a *triangle*, instead of a *rectangle*. Even in the hardest digging, there is no "wobble" to a WILLIAMS clamshell. And the sheaves are held perfectly in line, saving wear on sheaves and cable.

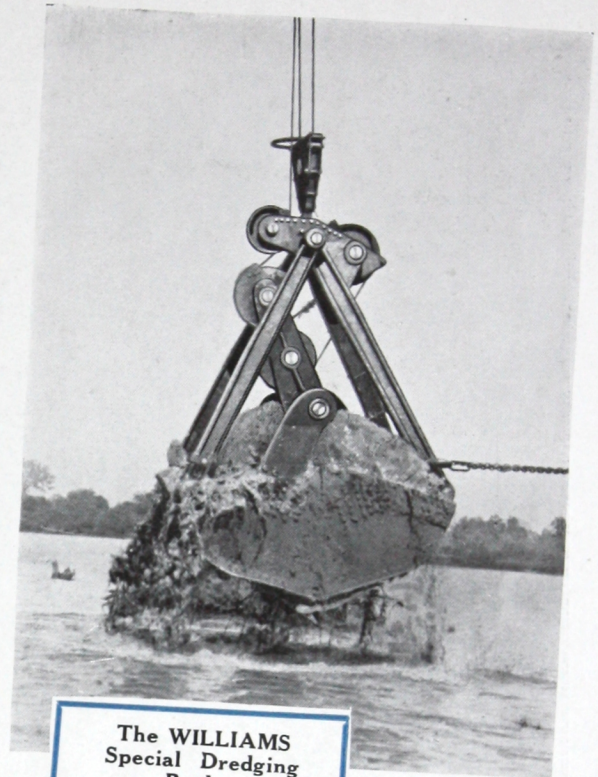


pick one of these WILLIAMS Buckets



The WILLIAMS "Hercules"

Serves for excavating, dredging, etc. Digging teeth can readily be removed for fast unloading of cars and handling bulk materials.

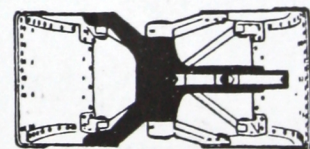


The WILLIAMS Special Dredging Bucket

For extreme service on land and water, and for the most severe excavating and dredging.



WILLIAMS
No. 2 Single Line
For handling sand, gravel, etc., with a single drum hoist or crane.



One-Piece Hinge Bearing

This large, one-piece hinge bearing takes the place of five moving parts found on most clamshells. It keeps the scoops in alignment—*permanently*. A WILLIAMS never spills part of its load between the scoops, even after years of service. It makes a stronger bucket, because there are *fewer parts* and *stronger parts*.

Wherever there's excavating, hard digging, dredging or rehandling, in any industry. —there's a WILLIAMS"



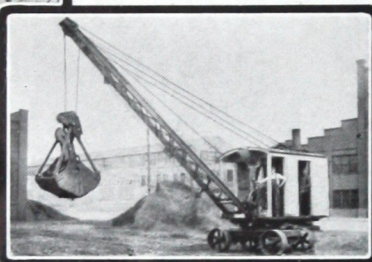
TRENCH DIGGING with a WILLIAMS "Favorite"



HARD EXCAVATING for deep foundation, with a WILLIAMS "Hercules"



CELLAR EXCAVATION with a WILLIAMS "Favorite"



FOUNDRY handling coal, sand, ashes, etc with a WILLIAMS "Favorite"

No one style of clamshell bucket is suited to all different kinds of operation—no single type of bucket is practical for all classes of material. But for every kind of excavating, hard digging, dredging, or rehandling, in any industry, there's a WILLIAMS Clamshell built to fit the job.

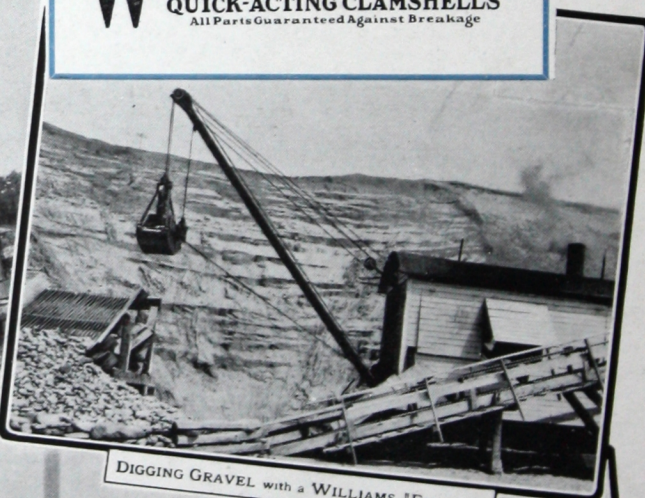
Be sure to investigate the WILLIAMS before you buy any kind of excavating or material-handling equipment. The 60-page WILLIAMS catalog shows interesting photos of all kinds of material handling and excavating jobs, and blue prints and specifications of all types of WILLIAMS Buckets. Write for your copy.

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HANDLING ROAD MATERIALS with a WILLIAMS "Favorite"



DIGGING GRAVEL with a WILLIAMS "Favorite"



DREDGING with a WILLIAMS Special Dredging Bucket



UNLOADING COAL with a WILLIAMS No. 2 Single Line Bucket



HANDLING STORAGE COAL with a WILLIAMS "Standard"